

# Oracle Complex Maintenance, Repair & Overhaul



## Feature Guide

**Key Functional Requirements:**

- Document Index
- Maintenance Requirements compliance
- Work Card Management
- Repair Knowledge
- Material Planning (routine and repair)
- Configuration Management
- Maintenance Planning & Scheduling
- Production Planning
- Production Monitoring
- Technical Records

**Complex MRO Modules**

- Document Index (Technical document management)
- Fleet Maintenance Program (Maintenance requirements)
- Unit Configuration (“As installed”, maintenance tracking)
- Master Configuration (Allowable installations)
- Product Classification (Logical grouping)
- Long Term Plan (Hangar and visit plan)
- Unit Maintenance Plan (Active maintenance requirements)
- Visit Work Package (Work scope and resources)
- Route Management (Work Card authoring)
- Production Planning (Resource allocation)
- Production (Shop floor management)

**Complex MRO Module Overview****Document Index**

- Registers all technical documents.
- Supports paper and electronic content formats (document, text, schematics, video, voice, etc.).
- Provides physical storage location.
- Supports electronic links to external and legacy storage systems and/or URL's.
- Centralizes revision control.
- Provides reference for MRO objects.

**Fleet Maintenance Program**

- Identifies all Maintenance requirements by asset type.
- Based on OEM specifications for maintenance requirements and schedules.

- Creates maintenance requirements by asset type.
- Associates routes from Route Management module to maintenance requirements.
- Associates Documents from Document Index to maintenance requirements.
- Defines Effectivity.
- Defines Intervals and Thresholds.
- Manages groups of maintenance requirements and dependent relationships.
- Displays affected items according to maintenance requirements.

### **Unit Configuration**

- “As installed” and “As maintained” configuration of a unit, such as: aircraft, engine, and component.
- Monitors serialized component installed in each position.
- Tracks component installation / removal.
- Associates child units to parent units.
- Tracks “Unit Specific” information.
- Tracks Utilization history.
- Stores Maintenance history.
- Provides closed loop asset management.
- Transaction based “cradle to grave” information.

#### **Unit Configuration - Tracked Parts**

- Manages Utilization History
- Stores Maintenance history
- Monitors Condition
- Tracks Ownership

#### **Unit Configuration - Utilization**

- Airframe accumulates utilization.
- Populates to attached components.
- Manages dependencies and ratios of component and complete asset.

### **Master Configuration**

- Provides Tree structure and nodes to represent the position (holes) of tracked parts.
  - Provides a structure to represent the positions for tracked / required components making up an assembly.
  - Defines the qualification of an assembly, by identifying the required components to meet a certain specifications.
  - Defines position of tracked parts within an assembly.
  - Defines parent child relationship.
  - Provides a configuration template for Unit Configuration.
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- Provides grouping for work cards/routes required to overhaul/repair complex assemblies such as an engines.
  - Defines alternate parts for a position.
  - Provides accumulation list for selection position.

### **Product Classification**

- Displays Fleet hierarchy in tree format.

- Provides Logical grouping by Aircraft, Engines, Components, etc.
- Lists the units in a fleet by type, style, model, location, etc.
- Provides a logical tree structure to illustrate the “nodes” and associated objects (such as maintenance requirements and documents).
- Provides rapid query and search by: Name, Documents, Unit/Parts, Maintenance.
- Allocates maintenance requirements, TO’s, Engineering changes, etc. to multiple units in a classification – attaches change to highest node and all lower branches immediately receive the change.

### **Long Term Plan**

- Define and creates a maintenance space (subdivided by department capabilities).
- Define space capabilities (on which items and what maintenance can be performed).
- Define check profile (manpower requirements).
- Create long term visit plan (appointment).
- Schedule a maintenance visit (for tomorrow, next week, next year or 20 years out).
- Assess a Maintenance Base’s Workload Schedule.
- Edit/Change a maintenance visit and/or its schedule.
- Create a copy of a visit and run simulation plan.
- Balance a maintenance base’s resources vs. workload resources.
- Provides Resource leveling and “what-if” analysis.
- Converts a simulation plan into a primary plan.
- Checks the availability of a visit’s Material Requirements.
- Schedules visit material requirements when plan approved.
- Estimates man-hours (planned and unplanned repairs).
- Evaluates ground/hanger/shop time.
- Determines man-hours required by skill and where needed staff is physically located.

### **Long Term Plan - Maintenance Provider Network**

- Defines Capability Management.
- Monitors Capability Profiles for each site.
- Evaluates Facility, tooling & equipment.
- Balances Manpower capacity.
- Ensures Maximum check level by: Equipment type, Aircraft, Engine, Component.

### **Unit Maintenance Plan**

- Based on maintenance requirements.
- Creates maintenance forecast for each individual unit.
- Provides view of remaining serviceable time of a unit.
- Models repetitive maintenance requirements over a time period.
- Calculates due date of maintenance requirements (based on time remain and utilization forecast).
- Associates maintenance requirements to visit.
- Lists all open maintenance requirements applicable to a unit.

### **Visit Work Package**

- Defines a visit - a maintenance event and its significant tasks (e.g. a “B” check, an engine overhaul).
- Defines the visit hierarchy.
- Provides a cost roll up structure that mirrors the Master Configuration.
- Selects the previously planned task groups, routes and individual tasks that will comprise the maintenance visit for the unit.
- Views, and adjusts (as required) each task in the work package.
- Retrieves deferred maintenance tasks or task groups for the unit and attaches them to the visit, if appropriate.
- Provides estimates of the duration of each task in the visit and provides an estimate of total duration of the visit.
- Selects maintenance items / work cards for the visit.
- Derives production information of the visit from the selected work cards.
- Builds routine and non-routine work scope.

### **Route Management (Work Cards)**

- Manages all work cards associated to a maintenance requirement
- Provides step-by-step work instructions
- Manages step sign off requirements (mechanic / inspector)
- Ensures route groups are utilized to maximize productivity
- Built-in capability to create, copy, update or retire a card.
- Provides management of production information
  - System / Zone / Area
  - Process
  - Access / Restore
  - Multiple significant tasks
- Manages resource requirements per job step
  - Estimated man hour (actual from production)
  - Skills / Skill level (airframe, avionics, inspection)
  - Certification
  - Materials
  - Tooling

### **Production Planning**

- Estimates visit workload including routine and non-routine labor, materials, and duration of the visit.
- Allows multiple Customizable searches for work orders / jobs / tasks -- by visit, project, task, job number, job description, assembly (item), item description, serial number, planning group, due date, start date, resource, component requirements, and many more.
- Updates a work order / job / task.
- Creates an Outside Service Order.
- Reviews, updates, and approves an Outside Service Order request
- Closes an Outside Service Order.
- Provides ability to review service history (previous jobs, outside orders, defects, routine and optional requirements) to access the proper service requirements to request for a particular item instance / assembly.

- Provides ability to review receiving discrepancies.
- Allows man-hour breakdown by zone / area.
- Supports creation of loan / borrow service order.
- Allows user to create a service request.
- Supports shipping to a customer or supplier.
- Manages receiving from or for service.

## **Production Plan - Estimate Turn Time for Major Processes**

- Work-load per major process
- Personnel per zone / area

## **Production**

- Provides repair job management
- Monitors Job progress & status
- Accurate Labor collection
- Manages Material requests
- Monitors Technical Assistance Request
- Tracks Cannibalizations
- Tracks Deferrals

## **Repair Management**

- Monitors originating routine (or repair) jobs
- Records defect findings
- Identifies known defect related to routine work card
- Creates new defects related to routine work card
- Assigns Repair work cards related to the defect
- Tracks man-hour history
- Creates repair jobs

## **Labor Collection**

- Associates personnel ID with job ID
- Records start and end time for each booking period

## **Material Request**

- Requests material by job ID and personnel ID
- Provides total inventory visibility

## **Technical Assistance Request**

- Monitors technical problems during production, e.g.: Beyond standard repair
- Manages requests from production personnel
- Directs to - engineering / technical services
- Updates defect - repair knowledge database

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Last Updated: November, 2002

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